

CLAIMS

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1. A discrete speaker for use in a distributed digital wireless loudspeaker system, the speaker comprising:

means for receiving an RF signal including a transmission clock and at least two channels of transmission data and broadcasting sound based upon the received RF signal, including-

means for generating a derived sample clock based upon a transmission clock,

means for selecting one of the channels from the RF transmission data for broadcast,

10 means for generating output audio data based upon the selected channel, and

means for broadcasting sound based upon the output audio data.

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2. The apparatus of claim 1 wherein the RF signal includes status data.

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3. The apparatus of claim 2 wherein the status data includes a control signal for activating the wireless speaker.

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4. The apparatus of claim 2 wherein the status data includes a control signal for controlling volume of the broadcast sound.

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5. The apparatus of claim 2 wherein the status data includes a control signal for controlling equalization of the broadcast sound.

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6. The apparatus of claim 1 wherein the means for transmitting transmits two RF signals at two different frequencies, each RF signal based upon one of the transmission data channels.

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7. The apparatus of claim ⁵⁴1, wherein the RF signal includes a channel of status data.

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8. The apparatus of claim 7, wherein the two channels of audio transmission data and the status channel are multiplexed prior to transmission, and further including means for demultiplexing the received RF signal.

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9. The apparatus of claim ⁵⁴11 further including means for assigning the speaker to a speaker group and means for selectively activating the speaker based on the speaker group assigned to it.

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10. The apparatus of claim ⁵⁴1 wherein the RF signal includes frame markers, and further including means for synchronizing the speaker based upon the frame markers.

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11. The apparatus of claim 10, wherein the input digital audio data comprises digital audio samples in the form of a digital audio bit-stream, and wherein the frame markers are positioned within the bitstream with a temporal accuracy of at least one audio data sample.

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12. The apparatus of claim 11, wherein the frame markers are positioned within the bitstream with a temporal accuracy at least on the order of an audio data bit from said bit-stream.

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13. The apparatus of claim 11, wherein the frame markers are positioned within the bitstream with a temporal accuracy at least on the order of one clock period of the RF transmission clock.

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A discrete speaker for use in a distributed digital wireless loudspeaker system, the speaker comprising:

means for receiving an RF signal including at least two audio channels of transmission data and broadcasting sound based upon the received RF

5 signal, including-

means for selecting one of the audio channels of transmission data,

means for generating output audio data based upon the selected channel, and

means for broadcasting sound based upon the output audio data.

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The apparatus of claim 14 wherein the RF signal includes status data.

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The apparatus of claim 15, wherein the status data includes a control signal for activating the wireless speaker.

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The apparatus of claim 15, wherein the status data includes a control signal for controlling volume of the broadcast sound.

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The apparatus of claim 15, wherein the status data includes a control signal for controlling equalization of the broadcast sound.

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The apparatus of claim 14 further including means for assigning the speaker to a speaker group and means for selectively activating the speaker based on the speaker group assigned to it.

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The apparatus of claim 14 wherein the RF signal includes frame markers, and further including means for synchronizing the speaker based upon the frame marker.

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21. The apparatus of claim 20, wherein the input digital audio data comprises digital audio samples in the form of a digital audio bit-stream, and wherein the frame markers are positioned within the bitstream with a temporal accuracy of at least one audio data sample.

22. The apparatus of claim 21, wherein the frame markers are positioned within the bitstream with a temporal accuracy at least on the order of an audio data bit from said bit-stream.

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23. The apparatus of claim 21, wherein the frame markers are positioned within the bitstream with a temporal accuracy at least on the order of one clock period of the RF transmission clock.

24. A discrete speaker for use in a distributed digital wireless
loudspeaker system, the speaker comprising:

means for receiving an RF signal including including at least two audio
channels of transmission data and frame markers appearing at fixed
5 intervals and broadcasting sound based upon the received RF signal,
including-

means for selecting one of the audio channels of the received RF
signal,

10 means for generating an output audio signal based upon the selected
audio channel,

means for synchronizing the output signal audio based upon the
frame markers, and

means for broadcasting sound based upon the synchronized output
audio signal.

25. The apparatus of claim 24 wherein the RF signal includes status
data.

26. The apparatus of claim 25, wherein the status data includes a
control signal for activating the wireless speaker.

27. The apparatus of claim 25, wherein the status data includes a
control signal for controlling volume of the broadcast sound.

28. The apparatus of claim 25, wherein the status data includes a
control signal for controlling equalization of the broadcast sound.

29. The apparatus of claim 24, wherein the means for transmitting
transmits two RF signals at two different frequencies, each RF signal
based upon one of the transmission channels.

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30. The apparatus of claim 24, wherein the RF signal includes a channel of status data, and wherein the two channels of audio transmission data and the status channel are multiplexed prior to transmission, and further including means for demultiplexing the received RF signal.

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31. The apparatus of claim 24, further including means for assigning the speaker to a speaker group and means for selectively activating the speaker based on the speaker group assigned to it.

32. A discrete speaker for use in a distributed digital wireless loudspeaker system, the speaker comprising:

means for receiving an RF signal including at least two audio channels of transmission data and further including status data and broadcasting sound based upon the received RF signal, including-

means for selecting one of the audio channels of the received RF signal,

means for generating an output audio signal based upon the selected channel and the status data,

means for broadcasting sound based upon the output audio signal and the status data.

33. The apparatus of claim 32, further including means for assigning the speaker to a speaker group and means for selectively activating the speaker based on the speaker group assigned to it.

34. The apparatus of claim 32, wherein the RF signal includes frame markers, and further including means for synchronizing the speaker based upon the frame marker.

35. The apparatus of claim 34, wherein the input digital audio data comprises digital audio samples in the form of a digital audio bit-stream, and wherein the frame markers are positioned within the bitstream with a temporal accuracy of at least one audio data sample.

36. The apparatus of claim 35, wherein the frame markers are positioned within the bitstream with a temporal accuracy at least on the order of an audio data bit from said bit-stream.

37. The apparatus of claim 35, wherein the frame markers are positioned within the bitstream with a temporal accuracy at least on the order of one clock period of the RF transmission clock.

38. A discrete speaker for use in a distributed digital wireless loudspeaker system, the speaker comprising:

means for receiving an RF signal comprising two multiplexed transmission data channels and broadcasting sound based upon the received RF signal,

5 including-

means for demultiplexing the received RF signal,

means for selecting one of the audio channels from the demultiplexed signal for broadcast,

10 means for generating an output audio signal based upon the selected audio channel, and

means for broadcasting sound based upon the output audio signal.

39. The apparatus of claim 38, wherein the RF signal includes status data.

40. The apparatus of claim 39, wherein the status data includes a control signal for activating the wireless speaker.

41. The apparatus of claim 39, wherein the status data includes a control signal for controlling volume of the broadcast sound.

42. The apparatus of claim 39, wherein the status data includes a control signal for controlling equalization of the broadcast sound.

43. The apparatus of claim 38, further including means for assigning the speaker to a speaker group and means for selectively activating the speaker based on the speaker group assigned to it.

44. The apparatus of claim 38, wherein the RF signal includes frame markers, and further including means for synchronizing the speaker based

upon the frame marker.

94/ 45. The apparatus of claim 44, wherein the input digital audio data comprises digital audio samples in the form of a digital audio bit-stream, and wherein the frame markers are positioned within the bitstream with a temporal accuracy of at least one audio data sample.

46. The apparatus of claim 45, wherein the frame markers are positioned within the bitstream with a temporal accuracy at least on the order of an audio data bit from said bit-stream.

47. The apparatus of claim 45, wherein the frame markers are positioned within the bitstream with a temporal accuracy at least on the order of one clock period of the RF transmission clock.